

CLAIMS

1. A wireless telephone system (100), comprising:
- (a) a base unit (110) having a base transceiver (111, 112); and
  - (b) a plurality of wireless handsets (120), each handset (120) comprising a handset transceiver (121, 122) for establishing with the base unit (110) via the base transceiver a time-division multiple access (TDMA) data link and a TDMA audio link, in accordance with a TDMA epoch (200) allocating exclusive data and audio packet time slots to each handset (120), wherein the data link is for transmitting signaling information and the audio link is for transmitting voice data for a real-time telephone call, wherein the base unit (110), upon request from a handset (120) for data from a data source, retrieves the requested data from the data source and transmits the retrieved data to the handset (120) via the audio link, wherein:  
the epoch (200) has a plurality of transmit and receive data row pairs, one such row pair for each handset (120), wherein each row of a row pair comprises an even row comprising a transmit data time slot for the respective handset and a plurality of transmit and receive audio packet time slots for half of the maximum number of the plurality of handsets which may be communicating at a time, and an odd row comprising a receive data time slot for the respective handset and a plurality of transmit and receive audio packet time slots for the other half of the maximum number of the plurality of handsets which may be communicating at a time; and  
each handset (120) receives and transmits data packets via receive and transmit data packet slots (251, 252) only once during each epoch (200), during the transmit and receive data row pair for each said handset, and, if the handset is communicating with the base unit, said each handset receives and transmits audio packets during respective transmit and receive audio packet time slots (253, 254) of each row pair of the epoch.
2. The system of claim 1, wherein:  
the plurality of handsets (120) comprises 12 handsets, 8 of which may be communicating at a time;

SUBSTITUTE SHEET

the epoch (200) comprises 12 data row pairs, one data row pair for each handset; and each row pair comprises 8 transmit and receive audio packet time slot pairs for audio communications for the communicating handsets.

3. The system of claim 1, wherein the data source is a memory (118) for storing data and the requested data is stored data stored in the memory.

4. The system of claim 3, wherein the base unit (110) comprises the memory (118).

5. The system of claim 3, wherein the base unit (110) is coupled to an external computer comprising the memory (118).

6. The system of claim 3, wherein the base unit (110) transmits the stored information to the handset (120) via the audio link only if the handset is not currently using the audio link to transmit real-time telephone conference voice data, and transmits the stored information to the handset via the data link if the handset is currently using the audio link to transmit real-time telephone conference voice data.

7. The system of claim 3, wherein the stored information is one of stored caller ID information and stored compressed voice mail message data.

8. The system of claim 7, wherein the handset requesting the stored information processes the stored information upon receipt in accordance with the nature of the stored information.

9. In a wireless telephone system (100) comprising a base unit (110) having a base transceiver (111, 112) and a plurality of wireless handsets (120), each handset (120) comprising a handset transceiver (121, 122), a method comprising the steps of:

- (a) establishing, with each handset via its handset transceiver, a time-division multiple access (TDMA) data link with the base unit via the base transceiver, and, with each handset that is communicating with the base unit, a TDMA audio link with the base unit via

the base transceiver, in accordance with a TDMA epoch (200) allocating exclusive data and audio packet time slots to each handset (120), wherein the data link is for transmitting signaling information and the audio link is for transmitting voice data for a real-time telephone call;

- (b) requesting, with the handset, from the base unit, data from a data source;
- (c) retrieving, with the base unit, the requested data from the data source in response to the request; and
- (d) transmitting the retrieved data from the base unit to the handset via the audio link, wherein:

the epoch (200) has a plurality of transmit and receive data row pairs, one such row pair for each handset (120), wherein each row of a row pair comprises an even row comprising a transmit data time slot for the respective handset and a plurality of transmit and receive audio packet time slots for half of the maximum number of the plurality of handsets which may be communicating at a time, and an odd row comprising a receive data time slot for the respective handset and a plurality of transmit and receive audio packet time slots for the other half of the maximum number of the plurality of handsets which may be communicating at a time; and each handset (120) receives and transmits data packets via receive and transmit data packet slots (251, 252) only once during each epoch (200); during the transmit and receive data row pair for each said handset, and, if the handset is communicating with the base unit, said each handset receives and transmits audio packets during respective transmit and receive audio packet time slots (253, 254) of each row pair of the epoch.

10. The method of claim 9, wherein the data source is a memory for storing data and the requested data is stored data stored in the memory.

11. A base unit (110) for communicating with a plurality of wireless handsets (120), each handset (120) comprising a handset transceiver (121, 122), the base unit (110) comprising:

- (a) a base transceiver (111, 112) for establishing a time-division multiple access (TDMA) data link with each handset via the base transceiver, and, with each handset that is

communicating with the base unit, a TDMA audio link via the base transceiver, in accordance with a TDMA epoch (200) allocating exclusive data and audio packet time slots to each handset (120), wherein the data link is for transmitting signaling information and the audio link is for transmitting voice data for a telephone call; and

(b) a memory (118) for storing stored information, wherein the base unit, upon request from the handset for stored information stored in the memory, retrieves the requested stored information from the memory and transmits the stored information to the handset via the audio link, wherein:

the epoch (200) has a plurality of transmit and receive data row pairs, one such row pair for each handset (120), wherein each row of a row pair comprises an even row comprising a transmit data time slot for the respective handset and a plurality of transmit and receive audio packet time slots for half of the maximum number of the plurality of handsets which may be communicating at a time, and an odd row comprising a receive data time slot for the respective handset and a plurality of transmit and receive audio packet time slots for the other half of the maximum number of the plurality of handsets which may be communicating at a time; and

each handset (120) receives and transmits data packets via receive and transmit data packet slots (251, 252) only once during each epoch (200), during the transmit and receive data row pair for each said handset, and, if the handset is communicating with the base unit, said each handset receives and transmits audio packets during respective transmit and receive audio packet time slots (253, 254) of each row pair of the epoch.

12. The base unit of claim 11, wherein the data source is a memory for storing data and the requested data is stored data stored in the memory.

13. A wireless telephone system (100), comprising:

- (a) a base unit (110) having a base transceiver (111, 112); and
- (b) a plurality of wireless handsets (120), each handset (120) comprising a handset transceiver (121, 122) for establishing a data link and an audio link with the base unit (110) via the base transceiver, wherein the data link is for transmitting signaling

SUBSTITUTE SHEET

information and the audio link is for transmitting voice data for a real-time telephone call, wherein the base unit (110), upon request from a handset (120) for non-voice data from a data source, retrieves the requested data from the data source and transmits the retrieved data to the handset (120) via the audio link if the handset is not currently using the audio link to transmit real-time telephone conference voice data and transmits the stored information to the handset via the data link otherwise.

SUBSTITUTE SHEET